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Five papers focus on the interrelated themes of school organization and innovation. They report on some preliminary analyses of field studies conducted during 1968 on such structural, sociocultural, and sociopsychological variables as division of labor, performance of organizational functions, decision making studies and processes, hierarchies of authority and esteem, rule observation, value systems, reward systems, and leadership. The authors and their studies are (1) Max G. Abbott, "Programmatic Research and Development on Innovativeness and the Organizational Attributes of Schools;" (2) Terry L. Eidell, Ronald Little, and Jon Thorlacius, "Uniformity and Variability in the Organizational Characteristics of Elementary Schools;" (3) Nico Stehr, George Lewis, and Roland J. Pellegrin, "Task Differentiation in Elementary Schools: An Exploratory Analysis;" (4) Charles J. Dudley, Keith F. Smith, and Roland J. Pellegrin, "The Decision-Making Structure of Schools;" and (5) Max G. Abbott and C. Michael Stuart, "The School Over Time: Our Findings Compared with Those of Waller." (HW)

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INNOVATIVENESS AND THE ORGANIZATIONAL ATTRIBUTES OF SCHOOLS*

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*Papers presented at Symposium 1.6, Innovativeness and the Organizational Attributes of Schools, during the AERA Annual Meeting, Los Angeles, California, February 1969.

INTRODUCTION

One program of research and development sponsored by the Center for the Advanced Study of Educational Administration (CASEA) is focused upon the interrelated themes of school organization and innovation. The long-term objective of the complex series of projects which make up this CASEA program is to increase knowledge about the nature of schools as organizations and to discover the nature of the interaction between innovation and organization. Papers included in this document report on some preliminary analyses of field studies conducted during 1968. The data collected in these field studies provide information on a variety of structural, socio-cultural, and socio-psychological variables, e.g., division of labor, performance of organizational functions, decision-making structures and processes, hierarchies of authority and esteem, rule observation, value systems, reward systems, and leadership. Since these papers are based upon only partial and preliminary analyses of the data collected, the authors have been extremely cautious in stating generalizations and in drawing conclusions. More definitive research reports growing out of this program will be made available by CASEA as further analyses are completed.

University of Oregon

Terry L. Eidell

February 1969

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PROGRAMMATIC RESEARCH AND DEVELOPMENT ON INNOVATIVENESS AND THE ORGANIZATIONAL ATTRIBUTES OF SCHOOLS

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Paper presented at Symposium 1.6, Innovativeness and the Organizational Attributes of Schools, during the AERA Annual Meeting, Los Angeles, California, February, 1969.

The research results being discussed in this symposium represent the partial findings of one phase of a program of research and development regarding the organizational implications of instructional change. This program, in turn, is part of a broader effort at the Center for the Advanced Study of Educational Administration to develop organizational and administrative arrangements for the educational enterprise that can accommodate rapidly changing instructional techniques, strategies, and goals.

The rationale for this type of work can be stated as follows. The organizational and administrative arrangements that prevail today in the American school may have been well adapted to the instructional techniques in the first half of the Twentieth Century--to the textbook-dominated classroom where one inexpertly trained teacher confronted thirty to forty pupils each period or day and engaged them in an instructional pattern of lecture, assignment, recitation, and examination. It is almost certain, however, that these arrangements will not be appropriate to the instructional techniques of the year 2,000. While IPI, team teaching, the ungraded primary, modular scheduling, and the like may not exist in their present form in thirty years, these developments do indicate the direction that effective instructional methods will take in the future on the basis of current advances in research and development.

There is already considerable evidence to indicate that the American school will be unable to capitalize on the emerging instructional patterns without some fundamental structural and procedural changes. The traditional allocation of authority in the school will probably be unrealistic in view of changes in the teacher's role demanded by new instructional techniques. It is unlikely that instruction can continue to be carried on in relatively autonomous self-contained classrooms through which students are moved in

narrowly graded age cohorts--a pattern that so importantly shapes the entire organizational character of the school. It is even possible that the notion of a geographically-bounded school district will be outmoded as a unit for organizing instruction, especially considering the modern communications technology that makes distance and space irrelevant parameters.

In whatever ways the school may need to be restructured, however, difficult problems of organization will remain. Means must be devised to assure coordination in the educative process, to maintain the enterprise through time, to distribute decision-making responsibilities efficiently, to retain an optimum level of flexibility so that the organization may incorporate still more promising instructional procedures, and to connect effectively with institutions on which the enterprise depends.

The research projects that gave rise to the results being reported today, known as the projects on "Organizational Attributes and Innovativeness," were designed initially as exploratory efforts regarding two issues. First, they were designed to enable us to add some increment to our meager knowledge about schools as organizations. Second, they were designed to produce dependable knowledge regarding the ways in which the organization of the school affects, and is affected by, instructional innovations.

Although the educational literature is replete with prescriptive statements as to how the schools "should" be organized, relatively little is known about how schools actually function as systems of patterned relationships. Official descriptions of structures have frequently been reified and thereby confused with operational structures. That is to say, in the educational literature "organization" is widely viewed in terms of those relationships depicted by formal organizational charts; it is seldom examined from the critical perspective of how the work of the school is structured to facilitate (or impede) teaching and learning.

In examining the relations between organization and learning, it becomes necessary to accumulate a mass of empirical data on the organizational characteristics of classrooms, schools, and school districts. We need to know what educational organizations are like--in various sections of the country, in the range of urban-rural settings, at various levels of instruction, in different ethnic and racial groups, etc. Such data can tell us how schools are characterized in organizational terms, and how they vary.

The accumulation of such data, while vital to studying the educational institution, is not an end in itself. If our work is to yield results in solving educational problems, it becomes necessary to discover the conditions under which educational organization can be improved. While accumulation of empirical data may produce knowledge about effective and ineffective forms or patterns of organization, if our primary aim is improvement, we must focus attention primarily upon how educational organization can be employed to bring about enhanced learning. This need leads us to examine organizational factors as they relate to instructional innovations. In other words, we want to find out how organizational and instructional innovations can together produce better schools.

As we approach this task, and as we attempt to guide our efforts by the literature that is available, a number of pertinent (or impertinent) questions present themselves.

What is it about the "organization" of education that apparently exerts such a negative influence on the functioning of the schools? When the "organization" is imputed such force, what elements or aspects of organization does the writer or speaker have in mind? Does he refer to the formal or official "organizational chart," to the hierarchy of positions in the

educational establishment? To the rules, regulations, procedures, and customs that mold and calcify the behavior of students, teachers, principals, superintendents, or whoever? To rigidities of interaction patterns among these persons? To the inflexible official (legal) framework that provides a niche for education in the community, state, or nation? To the patterns of superiority-inferiority, dominance-submission, or autonomy-dependence that exist within and between educational populations? To the precarious position of education in the politics of resource allocation at local, state, and federal levels? To rigid and unimaginative utilization of resources within the educational establishment? To the value and attitudinal complexes that bind and constrain actors in educational settings? To none, some, or all of these? To still others? Or is "organization" the modern-day counterpart of a devil-like spectre to which we can at will attribute all manners of evil influence?

In our current efforts at beginning to unravel this puzzle, we have developed a framework that posits three levels or dimensions of variables for analysis: structural, socio-cultural, and social-psychological. In the structural domain, we have collected data on the variables complexity, centralization, and formalization. In the socio-cultural domain we have collected data on the variables values, norms, and perceived rewards. In the social-psychological domain we have collected data on the variables pupil control ideology, job satisfaction, leadership behavior, and reference group orientation. The ways in which these variables were operationalized and the conceptual relationships among the variables will be clarified to a limited extent in the papers to follow. Further clarification will necessarily await future, more detailed reports.

As we laid plans to collect data in the projects, we wanted to be able to ascertain the extent to which common organizational characteristics of schools are modified or changed by radical innovations in curriculum, teaching techniques, technology, etc. In examining the literature and in surveying the current educational scene, it was decided that the Individually Prescribed Instruction Curriculum (IPI) developed by the Learning Research and Development Center at the University of Pittsburgh and Research for Better Schools (Regional Laboratory) in Philadelphia had rapidly emerged as one of the most significant educational innovations of the decade. Similarly, the Multiunit School (then known as Project Models, and still later as the Unitized School) developed by the Wisconsin Research and Development Center for Cognitive Learning constituted a new approach to research and instruction that promised significant improvements in the division of labor and integration of functions in the elementary school. After considering these and other recent innovations, it was decided to include in our sample schools in Wisconsin that had the multiunit program and schools in Pennsylvania and New Jersey that had adopted the IPI program. In both instances, control schools were selected for each experimental school to be investigated.

Schools in three districts in the State of Washington were selected as the source of an extensive data base on the organizational characteristics of schools. This data base, which can be reported only in part here, was intended to provide knowledge about the characteristics of schools, to be supplemented at a later date by studies of schools in other sections of the country that have different populations, problems, and situational variables.

Because our analysis of the data has not proceded as rapidly as we had anticipated and because the time available at a session such as this is necessarily limited, our reports are both sketchy and tentative. Nevertheless, some intriguing findings are beginning to emerge from our initial studies and we are pleased to be able to share them with this audience.

Uniformity and Variability in the Organizational Characteristics of Elementary Schools

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Paper presented at Symposium 1.6, Innovativeness and the Organizational Attributes of Schools, during the AERA Annual Meeting, Los Angeles, California, February, 1969.

Introduction

The research reported in this and the following papers is exploratory in nature, representing an initial attempt at identifying the important dimensions or attributes of schools as organizations. No attempt has been made to state or test hypotheses. Rather, the goal has been to assess several variables in the hope that these will give a better understanding of educational organizations and aid in the formation of testable hypotheses for future research. Massive amounts of data have been collected and an extensive analysis of these data is now under way; however, the data reported here are based on an initial analysis using basic tabulations and statistical comparisons. Because of these and other limitations, one must be extremely cautious in drawing unwarranted generalizations or conclusions from the results reported here.

Sample

The data reported here were collected from an availability sample of teachers in 12 elementary schools located in six school districts in three states. The four sub-samples, upon which comparisons are made, each consist of three schools and are identified as: multi-unit experimental, multi-unit control, IPI (Individually Prescribed Instruction) experimental, and IPI control. The data are based upon wirtten responses of teachers to four instruments designed to measure variables which are generally thought of as lying in the social-psychological domain. These variables are: (1) Job Satisfaction, (2) Pupil Control Ideology, (3) Reference Group Orientation, and (4) Leadership.

Results

Job Satisfaction. The instrument employed to measure job satisfaction utilized Likert-type responses to each of ten items. In a manner similar to Herzberg (1964) and Hage and Aiken (1967), job satisfaction was conceptualized as being bi-dimensional rather than uni-dimensional. Six of the ten statements in the instrument were intended to measure the respondent's satisfaction associated with the work itself; this type of job satisfaction is referred to as instrumental satisfaction. The remaining four items were intended to measure satisfaction related to such things as interpersonal relationships, and is referred to here as expressive satisfaction.

Instrumental Job Satisfaction. When the results of questions dealing with instrumental satisfaction were ranked according to sub-sample mean scores, the ranking (highest satisfaction to lowest) was: multi-unit experimental, multi-unit control, IPI control, and IPI experimental (See Table 1). While the mean scores did not appear to be excessively different, the probabilities of differences computed on the basis of Kolmogorov-Smirnov "D" scores presented a different impression. When the experimental schools were compared with their controls, the differences appeared to be slight ($p > .10$ in both cases). However, comparisons between multi-unit and IPI sub-samples exhibited a clearer pattern, with the multi-unit sub-samples being consistently higher in instrumental satisfaction. The comparison of control sub-samples indicated greater instrumental satisfaction in the multi-unit sub-sample ($p < .025$), and the difference between the multi-unit control and the IPI experimental was even more accentuated ($p < .005$). The multi-unit experimental sub-sample exhibited greater instrumental satisfaction than either the IPI experimental or the IPI control sub-sample ($p < .001$ for both comparisons).

TABLE 1: Kolmogorov-Smirnov D-Values, Probability of Differences* and Means for Instrumental Satisfaction.**

Comparisons	D-Values	Prob. of Diff.*
Multi-unit Experimantal vs		
Multi-unit Control	.158	ns
IPI Experimental	.445	.001
IPI Control	.385	.001
Multi-unit Control vs		
IPI Experimental	.35	.005
IPI Control	.290	.025
IPI Experimental vs		
IPI Control	.121	ns
Multi-unit Exper. & Control vs		
IPI Exper. & Control	.367	.001

School Type	Means	Number of Teachers
	20.00 (1)	63
Multi-unit Control	19.25 (2)	63
IPI Control	17.89 (3)	56
IPI Experimental	17.11 (4)	57
Multi-unit Exper & Control	19.63	126
IPI Exper & Control	12.50	113

*Two-tailed, exact probabilities not available

**Four items

Expressive Satisfaction. The ranking of sub-sample mean scores was the same for expressive satisfaction as it was for instrumental, with the multi-unit experimental sub-sample highest, followed by the multi-unit control, IPI control, and IPI experimental (See Table 2). However, when probabilities were computed on the basis of the Smirnov Test, each comparison of sub-samples yielded a probability of greater than .1, indicating that the degree of expressive satisfaction was approximately equal for all four sub-samples. Although no differences of any magnitude were evidenced, it seems worthwhile to note that the pattern, based on sub-sample mean score ranking, was the same for both expressive and instrumental satisfaction.

The evidence is fairly clear that, on instrumental satisfaction, respondents in the multi-unit experimental and multi-unit control sub-samples were more highly satisfied than respondents in the IPI experimental or IPI control sub-samples ($p < .025$ for all comparisons). Perhaps these sub-sample differences can be best explained as regional variations since all comparisons between regions yielded probabilities of less than .05 while comparisons between experimental and control sub-samples within each region yielded probabilities of greater than .05. When the multi-unit experimental and multi-unit control sub-sample data for instrumental satisisfaction were combined and compared with combined data from IPI experimental and control sub-samples, the idea of regional variation was supported ($p < .001$). On a similar comparison of data combined by region for the expressive satisfaction variable, the probability was greater than .1. Thus, an explanation of regional difference appears tenable for instrumental satisfaction, but even though sub-samples fell in the same rank order on expressive satisfaction, no such interpretation seems viable.

TABLE 2: Kolmogorov-Smirnov D-Values, Probability of Differences* and Means for Expressive Satisfaction.**

Comparisons	D-Values	Prob. of Diff.*
Multi-unit Experimental vs		
Multi-unit Control	.159	ns
IPI Experimental	.189	ns
IPI Control	.219	ns
Multi-unit Control vs		
IPI Experimental	.143	ns
IPI Control	.114	ns
IPI Experimental vs		
IPI Control	.054	ns
Multi-unit Exper and Control vs		
IPI Experimental and Control	.144	ns

School Type	Means	Number of Teachers
Multi-unit Experimental	13.57 (1)	63
Multi-unit Control	12.90 (2)	63
IPI Control	12.70 (3)	56
IPI Experimental	12.32 (4)	57
Multi-unit Exper & Control	13.40	126
IPI Exper & Control	12.50	113

*Two-tailed, exact probabilities not available
**Four items

Any explanation of these results must take into consideration two important factors. First, a period of more than one year had elapsed, after the introduction of both the multi-unit and the IPI innovations, before job satisfaction was measured. During this lapse of time stabilization may have occurred in such areas as interpersonal relationships, thus accounting for the lack of variation on expressive satisfaction and possibly diminishing all experimental versus control differences. Second, the IPI innovation involves only two subjects (math and reading) and the conflicts which may arise from working within two juxtaposed teaching systems are not known.

Pupil Control Ideology. To assess the attitudes which teachers hold concerning the control of pupil behavior, a five-item (short-form) of the Pupil Control Ideology Instrument (Willower, 1967) was administered. This instrument was designed to measure on a Likert-type response scale the pupil control ideology of educators along a custodial-humanistic continuum. A custodial pupil control ideology (high scores) stresses the maintenance of order, distrust of students, and a punitive, moralistic approach while a humanistic ideology (low scores) emphasizes an accepting, trustful view of pupils, and optimism concerning their ability to be self-disciplining and responsible.

Mean score ranking, for most humanistic to most custodial, indicated the multi-unit experimental schools to be most humanistic followed by multi-unit control, IPI experimental, and IPI control (See Table 3). Probabilities computed from the Smirnov Test indicated little difference between IPI experimental and IPI control or multi-unit control ($p > .10$ for both). A slightly larger difference was indicated for the comparison between the multi-unit experimental and the multi-unit control ($p < .10$). Larger differences were found when the two experimental

TABLE 3: Kolmogorov-Smirnov D-Values, Probability of Differences* and Means for Pupil Control Ideology.**

Comparisons	D-Values	Prob. of Diff.*
Multi-unit Experimental vs		
Multi-unit Control	.227	.10 (ns)
IPI Experimental	.315	.01
IPI Control	.487	.001
Multi-unit Control vs		
IPI Experimental	.129	ns
IPI Control	.266	.05
IPI Experimental vs		
IPI Control	.172	ns

School Type	Means	Number of Teachers
Multi-unit Experimental	9.80 (1)	57
Multi-unit Control	11.03 (2)	63
IPI Control	12.71 (4)	56
IPI Experimental	11.39 (3)	57

*Two-tailed, exact probabilities not available
**Five items

groups were compared ($p < .01$) and when the control groups were compared ($p < .05$). The largest difference found was that between the multi-unit experimental and the IPI control ($p < .001$).

Since there is no clear difference between the multi-unit control and the IPI experimental groups ($p > .10$), the differences in scores cannot be explained by regional factors alone. However, regional variations undoubtedly play a large part in explaining the differences, especially since the comparison between combined multi-unit sub-samples and combined IPI sub-samples yielded a probability of less than .001. Whatever the explanation, there can be no doubt that the multi-unit respondents are far more humanistic in their attitudes toward pupil control than are the IPI respondents (except $p > .1$ for MUC versus IPIX). Although no explanation for the apparent regional variation is readily available, differences in teacher training, selection, age, sex or experience, might serve as a partial explanation; pupil's socio-economic status, or other local variations might also be partially responsible. However, any interpretation based on the present analysis would seem premature.

Reference Group Orientation. The reference group orientation of teachers in the four sub-samples were assessed by a three-item instrument. Respondents were asked to choose one of two responses to each item, with one response reflecting a cosmopolitan orientation and the other reflecting a local orientation. The ranking of the mean scores indicated that the IPI experimental sub-sample was the most cosmopolitan followed by multi-unit experimental, multi-unit control, and IPI control (See Table 4). However, the range of the means was only .34 (4.76 to 4.44). Probabilities based on the Smirnov Test indicate no distinct differences between the

TABLE 4: Kolmogorov-Smirnov D-Values, Probability of Differences* and Means for Reference Group Orientation.**

Comparisons	D-Values	Prob. of Diff.*
Multi-unit Experimental vs		
Multi-unit Control	.86	ns
IPI Experimental	.191	ns
IPI Control	.187	ns
Multi-unit Control vs		
IPI Experimental	.187	ns
IPI Control	.186	ns
IPI Experimental vs		
IPI Control	.190	ns

School Type	Means	Number of Teachers
Multi-unit Experimental	4.65 (2)	56
Multi-unit Control	4.51 (3)	60
IPI Control	4.44 (4)	56
IPI Experimental	4.76 (1)	54

*Two-tailed, exact probabilities not available
**Three items

sub-samples (all p's > .10). A closer look at the data, however, indicated that there was a large "flop-over" effect, that is, individuals did not tend to answer all three items consistently. The greatest inconsistency appeared to occur on Item Number 2 which dealt with the respondent's source of intellectual stimulation. A preliminary analysis of agreement between responses on the three items indicated that this effect was more pronounced in both the multi-unit experimental and control sub-samples than in either of the IPI sub-samples. For this reason, an analysis was made on the basis of respondents who scored at the extremes of the scale, i.e., those who scored all items with a cosmopolitan orientation were compared with those who scored all items with a local orientation (See Table 5).

The percentage of respondents in the IPI experimental sub-sample scoring as pure-type cosmopolitans was approximately twice as large as the percentage of cosmopolitans in either the IPI control or the multi-unit experimental sub-sample (27.7% versus 14.3%, and 14.3%), and nearly four times as great as the percentage of cosmopolitans in the multi-unit control sub-sample (6.89%). Approximately ten percent of the respondents in both the IPI experimental and IPI control sub-samples were "pure-type locals," while the multi-unit experimental and control sub-samples contained zero percent and 15.5 percent locals, respectively.

While the two experimental groups, on the basis of mean scores, appeared to be more cosmopolitan in orientation than either of the control groups, these differences did not seem to be major. Further, the multi-unit experimental and control schools appeared to be more similar in their local-cosmopolitan orientation than did the IPI experimental and control schools. These results may not lead one to conclude that a regional variation was a viable explanation of the differences;

TABLE 5: Percentage of Respondents Scoring as Pure-Type Locals and Cosmopolitans on Reference Group Orientation.

School Type	Number in Total Sample	Cosmopolitan N	Cosmopolitan %	Local N	Local %
IPI Experimental	54	15	27.7	5	9.44
IPI Control	56	8	14.3	6	10.7
Multi-unit Experimental	56	8	14.3	0	0.0
Multi-unit Control	58	4	6.89	9	15.5

however, when the experimental and control sub-samples from each region were collapsed into single groups and compared, a different assessment emerged. A chi-square test computed on this regional comparison yielded a probability of less than .02, pointing to some sort of regional difference. It must be noted that this analysis included only 55 "pure type" respondents (24.6% of the total sample), and any conclusions drawn must be very tentative.

One possible explanation for the more cosmopolitan tendency of respondents in the experimental sub-samples, a condition especially notable in IPI schools, might be that experimentation encourages extra-organizational relationships and, therefore, nurtures a cosmopolitan orientation.

Leadership. The final variable under consideration was that of the leadership characteristics of school principals. The instrument used required Likert-type responses to 16 items on which teachers evaluated their principal's leadership qualities. These items were adapted from the Halpin and Croft OCDQ (1963). The sub-samples were compared on the basis of responses to four sub-scales, each consisting of four questionnaire items.

Aloofness refers to behavior by the principal which is characterized as formal and impersonal. He "goes by the book" and prefers to be guided by rules and policies rather than to deal with teachers in an informal, face-to-face situation. His behavior, in brief, is universalistic rather than particularistic; nomothetic rather than idiosyncratic. To maintain this style, he keeps himself — at least "emotionally" — at a distance from his staff.

The ranking of the sub-sample means indicates that the multi-unit control principals were the most aloof, followed by the IPI experimental, multi-unit

experimental, and IPI control, but the range of the means was only .65, and no comparisons yielded probabilities less than .05 (See Table 6).

Consideration refers to behavior by the principal which is characterized by an inclination to treat the teachers "humanly," to try to do a little something extra for them in human terms.

As in the case of both satisfaction sub-scales, the rank order of the sub-sample means on the consideration sub-scale yielded the pattern of: multi-unit experimental, multi-unit control, IPI control, and IPI experimental (SeeTable 7). All comparisons yielded probabilities greater than .10 except in the case of the comparison between the multi-unit experimental and the IPI experimental where the probability was less than .05. The data do not indicate a regional explanation to be viable, but they do indicate that the multi-unit experimental principals are considered by teachers to be more considerate than their counterparts in the IPI schools.

Production Emphasis refers to behavior by the principal which is characterized by close supervision of the staff. He is highly directive, and plays the role of a "straw boss." His communication tends to go in only one direction, and he is not sensitive to feedback from the staff.

The production-emphasis sub-scale yielded sub-sample mean scores which when ranked from high to low were: multi-unit control, IPI control, IPI experimental, and multi-unit experimental (See Table 8). Probabilities computed from the Smirnov Test indicated that four of the comparisons yielded probabilities of greater than .05. However, the comparison between the multi-unit experimental and control sub-samples yielded a probability of less than .01, while the comparison between the IPI and multi-unit experimental sub-samples yielded a probability of

TABLE 6: Kolmogorov-Smirnov D-Values, Probability of Differences* and Means for Aloofness.**

Comparisons	D-Values	Prob. of Diff.*
Multi-unit Experimental vs		
Multi-unit Control	.155	ns
IPI Experimental	.090	ns
IPI Control	.187	ns
Multi-unit Control vs		
IPI Experimental	.120	ns
IPI Control	.203	ns
IPI Experimental vs		
IPI Control	.138	ns

School Type	Means	Number of Teachers
Multi-unit Experimental	8.66 (3)	61
Multi-unit Control	9.35 (1)	62
IPI Control	8.60 (4)	49
IPI Experimental	9.02 (2)	52

*Two-tailed, exact probabilities not available
**Four items

TABLE 7: Kolmogorov-Smirnov D-Values, Probability of Differences* and Means for Consideration.**

Comparisons	D-Values	Prob. of Diff.*
Multi-unit Experimental vs		
Multi-unit Control	.100	ns
IPI Experimental	.260	.05
IPI Control	.214	ns
Multi-unit Control vs		
IPI Experimental	.217	ns
IPI Control	.179	ns
IPI Experimental vs		
IPI Control	.126	ns

School Type	Means	Number of Teachers
Multi-unit Experimental	8.89 (1)	61
Multi-unit Control	8.42 (2)	62
IPI Control	7.79 (3)	49
IPI Experimental	7.33 (4)	52

*Two-tailed, exact probabilities not available
**Four items

TABLE 8: Kolmogorov-Smirnov D-Values, Probability of Differences* and Means for Production Emphasis.**

Comparisons	D-Values	Prob. of Diff.*
Multi-unit Experimental vs		
Multi-unit Control	.402	.001
IPI Experimental	.275	.05
IPI Control	.256	.10 (ns)
Multi-unit Control vs		
IPI Experimental	.244	.10 (ns)
IPI Control	.146	ns
IPI Experimental vs		
IPI Control	.054	ns

School Type	Means	Number of Teachers
Multi-unit Experimental	7.44 (4)	61
Multi-unit Control	9.50 (1)	62
IPI Control	8.77 (2)	49
IPI Experimental	8.39 (3)	52

*Two-tailed, exact probabilities not available
**Four items

less than .05. The greatest difference in production emphasis is between the multi-unit control, which had the highest production emphasis, and the multi-unit experimental. It is clear that the differences in production emphasis cannot be explained by regional variation.

Thrust refers to behavior by the principal which is characterized by his evident effort in trying to "move the organization." "Thrust" behavior is marked not by close supervision, but by the principal's attempt to motivate the teachers through the example which he personally sets, Apparently, because he does not ask the teachers to give of themselves any more than he willingly gives of himself, his behavior, though starkly task-oriented, is nontheless viewed favorably by the teachers.

On the thrust sub-scale, the ranking of sub-sample means indicated that the multi-unit control principals were rated as having the highest amount of thrust, followed by the multi-unit experimental, IPI control, and IPI experimental (See Table 9). Comparisons between the control groups and their respective experimental groups yielded probabilities greater than .1. The comparison between the multi-unit control and the IPI experimental sub-samples yielded a probability of less than .005. These results could be interpreted to indicate an explanation in terms of regional differences, but the lack of difference between control groups, in addition to the extremely small difference between the multi-unit groups should attenuate such a possible explanation.

Summary

In this paper we have assessed the uniformity and variability of four sub-samples on eight variables. Some evidence of variation according to geographic location was found on instrumental satisfaction, pupil control ideology, reference

TABLE 9: Kolmogorov-Smirnov D-Values, Probability of Differences* and Means for Thrust.**

Comparisons	D-Values	Prob. of Diff.*
Multi-unit Experimental vs		
Multi-unit Control	.054	ns
IPI Experimental	.332	.005
IPI Control	.263	.05
Multi-unit Control vs		
IPI Experimental	.286	.025
IPI Control	.236	.10 (ns)
IPI Experimental vs		
IPI Control	.126	ns

School Type	Means	Number of Teachers
Multi-unit Experimental	12.64 (2)	61
Multi-unit Control	12.66 (1)	62
IPI Control	10.85 (3)	49
IPI Experimental	10.04 (4)	52

*Two-tailed, exact probabilities not available
**Four items

group orientation, and production emphasis. The greatest differences, both in magnitude and in frequency of occurrence, were found in comparisons between the experimental sub-samples ($p < .05$ in 6 of 9 comparisons). On comparisons between each experimental sub-sample and its control sub-sample, differences were rather consistently small. Few interpretations have been offered, but we hope to offer better explanations of the findings when analyses have been completed.

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TASK DIFFERENTIATION IN ELEMENTARY SCHOOLS: AN EXPLORATORY ANALYSIS

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The present paper attempts a description and exploratory analysis of the distribution of tasks of elementary school teachers within and among the five types of schools studied by the Attributes Project. The data make it possible for us to describe how differences in the organization of schools and the instructional process effect the kind and quantities of tasks teachers perform. At the same time a comparison of the aggregate responses should enable us to infer to what extent certain tasks differ in importance and time allocation within and among these types of schools.

The Data

The data on which this paper is based are taken from the Organizational Task Instrument, which was designed to elicit an extensive job description from each teacher[1] as well as the ranking of tasks listed by the respondents according to their importance[2] and the time it takes to carry them out.[3] For the purpose of this paper, we compare by task area[4] for each type of school the frequency distributions of all (1) tasks listed, (2) the five most salient and the five most time consuming tasks. We further compare weighted rankings[5] of the five[6] top ranked tasks in terms of their importance and the time attached to them by the respondents, again by task area for each type of school.

1. Distribution of Tasks by Task Area

The analysis of the total distribution of tasks by task areas--i.e., inclusive categories of work-related activities like "evaluation," "meetings," or "public relations"--may proceed in two different directions. First, we may look at the relative distributions in each type of school. Second, we may compare the distribution of tasks by task area among different types of schools.

Table 1 shows, for instance, that the task area which includes the greatest number of responses in IPI schools is the task category "management" with 18.4%; thus one out of every five tasks carried out by teachers in this type

of school is related to what we call "management activities," including tasks such as "ordering supplies," "room decoration," "clerical duties," and "housekeeping." This, however, seems to be by no means unique to IPI schools since their controls show 20.8% of all teacher activities falling in the same category. The only type of school which is an exception seems to be the unitized school, where only 13.7% of the tasks could be categorized in the task area "management."

Unitized schools show a very high frequency of response in the category "planning" (22.5%), which include such tasks as "planning for instruction," "preparation of new materials," "curriculum development," and "daily planning."

A comparison of the task area "evaluation" which includes such items as "evaluating materials," "bookkeeping," "evaluation of student progress," and the like, yields an almost equal frequency of response in each of the five sets of schools we are comparing.

A specific comparison of the distribution of tasks by task areas for the innovative schools (IPI and Unitized) shows that these two types of school are very similar in this respect--i.e., the percentage differences are small.

A comparison of the differing control schools, on the other hand, reveals somewhat greater differences (e.g., regional), although the magnitude of differences exceeds 5% in only one case. The IPI-Control schools are unique in terms of teacher activities related to meetings. While only 1.7% of the tasks in IPI-Control schools are concerned with meetings, 6.6% and 5.4% of the responses of the Unitized-Control and Washington schools have been categorized in the task area "meetings."[7] Further differences appear among these three types of control schools in lower magnitude in the task areas "supervisory duties," "planning," "management," and "teaching-instructional activities." In conclusion, the differences in the relative distribution of tasks by task area between IPI and Unitized schools are less obvious than are the differences between the three types of control schools. At the

same time, a comparison between innovative schools and their respective control schools reveals as many differences as among the different sets of control schools.

2. A Comparison of the Total Distribution of Tasks and the Distribution of the Five Most Important Tasks

The kind of shift in the aggregate response rates will indicate that certain tasks areas, while more or less frequently part of the teacher's role, are likewise more or less important in his perception of that position. Incongruent shifts among schools enable us to identify certain task areas which are possibly effected by a differential organization of schools.

As Tables 1 and 2 show, we may identify three task areas out of the eleven which receive about the same relative frequency of responses in the two distributions we are comparing; these are the task areas "guidance," "professional advancement-growth," and "teaching-content areas." The results, first of all, indicate that the frequency of responses and the ranking of the task in terms of importance seem not to be effected by the organization of the school. Secondly, these aggregate frequencies seem to allow the inference that most of the tasks mentioned in these areas are at the same time perceived as important.[8] Relatively uneffected by the kind of organization are five additional task areas; namely, "meetings," "planning," "public relations," "stimulation-motivation," and "teaching-instructional activities." A comparison of the two distributions show that they are either consistently higher or consistently lower in their relative aggregate response rate among the five types of schools.

On the other hand, in the remaining task areas ("evaluation," "management," "supervisory duties") a comparison of the two response distributions seems to indicate that the uniqueness of the innovative schools effects the salience of certain task areas for our teacher respondents. In the task area

"evaluation" the relative frequencies in both distributions are about the same except for the unitized schools. Here the percentage of 16.0% in the total distribution of tasks (Table 1) can be compared with 9.6% in the distribution of the five most important tasks (Table 2).[9] This comparison indicates that evaluational tasks are less frequently ranked among the five most important tasks as compared to the same distribution of the five most important tasks of all other types of schools. While in Unitized schools the task area "evaluation" seems to be most effected by the specific school organization, it is in the task area "management" that IPI schools present a somewhat unique pattern. The relative frequency of tasks in this task area is about consistent in the two distributions for IPI schools,[10] while considerably lower in terms of the most important tasks in all other types of schools. The organization of IPI schools seems to have the effect of reducing considerably the response frequency of "management" activities, yet not reducing their salience which seems to be constant over all types of schools.

3. A Comparison of the Rankings of the Five Most Important Tasks and the Five Most Time-Consuming Tasks

A task which is perceived as important for the teacher role does not also have to be time consuming and vice versa. In fact, the latter would seem to be somewhat less likely.

This comparison will be made only for those task areas which have high enough response rates to allow reasonalby valid comparisons. Therefore, we will exclude all task areas which have relatively low frequencies of responses; this applies to the task areas "meetings," "professional advancement-growth," and "public relations." We will take arbitrarily as an indication of a "significant" difference between ranks an incongruence of at least four ranks.

We will first consider the rankings within schools. Here we can discern

three task areas in which the rankings within all schools are consistent on both dimensions analyzed. These are the task areas "stimulation-motivation," "supervisory duties," and "management;" these task areas are either ranked consistently high, median, or low within schools.

The task area "evaluation" is ranked consistently median or low within schools with the exception of the Washington control schools where the task area "evaluation" ranks consistently higher along the time-dimension. The task area "guidance" is ranked consistently high on both variables in all types of schools with the exception of IPI, where it is ranked median on importance and low in terms of time. The task area "teaching-content areas" is ranked consistently high on both dimensions with the exception of Unitized and Unitized-control schools where it is ranked median on the importance-dimension and high on the time-dimension. The task area "teaching-instructional activities," is ranked high on both dimensions with the exception of Unitized-control schools, where it is ranked median on importance and high on time. We have finally among the within-comparison of the task areas the category "planning" which ranks for all types of schools higher in terms of importance. This means that employing our criteria, there exists only one task area where innovative schools seem to exhibit a unique pattern. This is the task area "guidance" in which IPI teachers rank tasks higher along the importance-dimension than along the time-dimension.

Comparing the ranking of tasks in the different task areas among the five different sets of schools, the following patterns of similarities and differences emerge. In the five following task areas: "management," "planning," "supervisory duties," "teaching-content areas," and "teaching-instructional activities" no differences appear. But, for the remaining task areas, the following differences in rankings can be observed. The task area "evaluation" is ranked somewhat higher along the time-dimension in IPI schools and

the Washington schools. The opposite pattern can be observed for the task area "guidance." The lowest rank the task area "guidance" receives is in IPI schools along both dimensions. In all other schools the task area "guidance" is ranked either high or median. A further difference can be observed in the task area "stimulation-motivation" which receives rank 1 in IPI schools on both variables while it is ranked in all other schools somewhat lower. This means the only "significant" differences observed in the ranks of tasks among different schools is a pattern which is unique to IPI schools. This leads us to the tentative conclusion that IPI schools and their respective innovations seem to have a far greater impact on the task structure of teachers than innovations in Multi-unit schools since the differences between Multi-unit schools and the control schools are relatively lower.

Conclusion

In conclusion, the variance of task areas within and among the five sets of schools is relatively small. We found regional differences as well as differences among the innovative schools. In subsequent analyses we also will compare individual tasks as well. And finally, we will relate different patterns of tasks to other organizational variables like decision-making structure, power structure, and division of labor in the schools.

TABLE 1 DISTRIBUTION OF TASKS BY TASK AREAS IN %

TASK AREA	IPI	IPI-CONTROL	UNITIZED	UNITIZED-CONTROL	WASHINGTON
1. EVALUATION	13.9	13.5	16.0	15.9	13.6
2. GUIDANCE	5.1	8.9	6.4	5.4	6.7
3. MANAGEMENT	18.4	20.8	13.7	21.2	15.9
4. MEETINGS	3.0	1.7	3.1	6.6	5.4
5. PLANNING	16.4	11.0	22.5	16.6	15.8
6. PROFESSIONAL ADVANCEMENT-GROWTH	2.8	0.4	3.1	4.2	1.3
7. PUBLIC RELATIONS	3.5	2.5	2.7	5.6	3.2
8. STIMULATION, MOTIVATION	2.8	4.4	2.7	2.6	0.8
9. SUPERVISORY DUTIES	9.6	13.9	8.0	2.8	9.9
10. TEACHING-CONTENT AREAS	8.1	5.4	11.5	5.8	13.6
11. TEACHING-INSTRUCTIONAL ACTIVITIES	16.5	17.5	13.3	13.2	13.6
	100.0	100.0	100.0	100.0	100.0
N (Tasks)	(396)	(519)	(512)	(572)	(684)
N (Respondents)	(44)	(53)	(47)	(56)	(73)

TABLE 2 DISTRIBUTION OF THE FIVE MOST IMPORTANT TASKS BY TASK AREA IN %

TASK AREA	IPI	IPI-CONTROL	UNITIZED	UNITIZED-CONTROL	WASHINGTON
1. EVALUATION	15.7	13.3	9.6	18.0	15.5
2. GUIDANCE	4.6	9.7	8.7	5.6	6.7
3. MANAGEMENT	9.3	9.7	7.4	8.5	6.4
4. MEETINGS	1.4	0.8	2.2	1.4	1.8
5. PLANNING	22.7	15.3	30.9	26.4	22.5
6. PROFESSIONAL ADVANCEMENT-GROWTH	2.3	0.4	2.6	2.5	2.0
7. PUBLIC RELATIONS	2.8	2.0	1.3	1.4	2.0
8. STIMULATION, MOTIVATION	3.2	5.2	4.3	3.2	1.5
9. SUPERVISORY DUTIES	6.9	10.9	3.0	4.6	6.1
10. TEACHING-CONTENT AREAS	8.8	7.7	10.9	8.1	11.4
11. TEACHING-INSTRUCTIONAL ACTIVITIES	22.2	25.0	19.2	20.4	24.0
	100.0	100.0	100.0	100.0	100.0
N (Tasks)	(216)	(248)	(230)	(284)	(342)
N (Respondents)	(44)	(49)	(46)	(56)	(71)

TABLE 3 DISTRIBUTION OF THE FIVE MOST TIME CONSUMING TASKS BY TASK AREA IN %

TASK AREA	IPI	IPI-CONTROL	UNITIZED	UNITIZED-CONTROL	WASHINGTON
1. EVALUATION	15.2	13.7	12.3	16.5	18.4
2. GUIDANCE	3.2	9.2	5.7	5.0	5.8
3. MANAGEMENT	10.1	12.4	6.2	13.6	10.1
4. MEETINGS	0.9	0.4	1.3	0.7	2.6
5. PLANNING	22.6	14.9	26.4	24.0	21.9
6. PROFESSIONAL ADVANCEMENT-GROWTH	1.4	0.4	1.8	1.8	1.2
7. PUBLIC RELATIONS	0.9	1.2	0.8	0.4	0.3
8. STIMULATION, MOTIVATION	3.7	4.8	2.6	2.2	0.9
9. SUPERVISORY DUTIES	9.2	11.6	3.1	5.0	4.9
10. TEACHING-CONTENT AREAS	11.1	8.0	15.0	9.0	11.2
11. TEACHING-INSTRUCTIONAL ACTIVITIES	21.7	23.3	24.7	21.9	22.8
	100.0	100.0	100.0	100.0	100.0
N (Tasks)	(217)	(249)	(227)	(279)	(347)
N (Respondents)	(44)	(50)	(46)	(55)	(71)

TABLE 4 IMPORTANCE - RANKING OF TASK AREAS[1,2]

TASK AREA	IPI	IPI-CONTROL	UNITIZED	UNITIZED-CONTROL	WASHINGTON
1. EVALUATION	3.32 (5)	3.82 (9)	3.95 (10)	3.45 (8)	3.72 (9)
2. GUIDANCE	3.40 (6)	2.63 (2)	2.85 (4)	2.44 (2)	3.43 (5)
3. MANAGEMENT	4.05 (10)	3.29 (7)	3.70 (9)	3.45 (9)	3.68 (8)
4. MEETINGS	4.00 (8)	5.00 (11)	3.00 (5)	4.75 (11)	4.00 (10)
5. PLANNING	2.24 (2)	2.10 (1)	2.58 (1)	2.43 (1)	2.31 (2)
6. PROFESSIONAL ADVANCEMENT-GROWTH	4.00 (9)	4.00 (10)	3.33 (6)	2.57 (3)	3.57 (6)
7. PUBLIC RE-LATIONS	4.50 (11)	3.80 (8)	4.33 (11)	4.75 (10)	4.29 (11)
8. STIMULATION, MOTIVATION	1.71 (1)	3.15 (6)	2.60 (2)	2.67 (4)	3.40 (4)
9. SUPERVISORY DUTIES	3.93 (7)	3.07 (5)	3.43 (8)	3.23 (7)	3.67 (7)
10. TEACHING-CONTENT AREAS	2.58 (4)	2.84 (4)	3.36 (7)	3.13 (6)	3.00 (3)
11. TEACHING-INSTRUCTIONAL ACTIVITIES	2.50 (3)	2.81 (3)	2.61 (3)	2.70 (5)	2.26 (1)

[1]The lower the score the "greater" the importance of a task area.

[2]Ranks in case of ties are randomly assigned.

TABLE 5 TIME - RANKING OF TASK AREAS[1,2]

TASK AREA	IPI	IPI-CONTROL	UNITIZED	UNITIZED-CONTROL	WASHINGTON
1. EVALUATION	3.45 (6)	3.68 (7)	3.75 (9)	4.04 (10)	3.36 (5)
2. GUIDANCE	4.43 (11)	2.38 (2)	3.00 (4)	2.93 (5)	3.55 (6)
3. MANAGEMENT	4.05 (10)	3.74 (8)	3.57 (7)	3.74 (8)	3.74 (7)
4. MEETINGS	2.50 (4)	5.00 (11)	4.00 (10)	3.00 (6)	4.33 (11)
5. PLANNING	3.30 (5)	2.97 (4)	2.98 (3)	2.71 (4)	3.03 (4)
6. PROFESSIONAL ADVANCEMENT-GROWTH	4.00 (9)	4.00 (9)	3.25 (5)	4.00 (9)	3.75 (8)
7. PUBLIC RELATIONS	3.50 (7)	4.33 (10)	4.00 (11)	5.00 (11)	4.00 (9)
8. STIMULATION, MOTIVATION	1.75 (1)	3.08 (5)	3.50 (6)	2.67 (3)	2.00 (2)
9. SUPERVISORY DUTIES	3.50 (8)	3.14 (6)	3.71 (8)	3.21 (7)	4.06 (10)
10. TEACHING-CONTENT AREAS	1.87 (2)	2.80 (3)	2.97 (2)	2.52 (2)	2.41 (3)
11. TEACHING-INSTRUCTIONAL ACTIVITIES	2.40 (3)	2.15 (1)	2.13 (1)	2.11 (1)	2.00 (1)

[1]The lower the score the "greater" the amount of time reported to be spent in a task area.

[2]Ranks in case of ties are randomly assigned.

FOOTNOTES:

1. The question was phrased as follows: "If you were to write a job description for your present position, you could approach the matter in various ways. At one extreme, you could categorize your work very broadly--for example, a teacher could say he spends 80 per cent of his time teaching, 10 per cent planning, and 10 per cent evaluating. At the other extreme, he could list relatively minor tasks such as sharpening pencils or moving desks. What we would like for you to do below is to describe your job at a level in between these very broad and very specific approaches.

Please think of the main sets of tasks or dimensions of your job. List these tasks on the lines below."

2. The text of the question was: "Look at your answer to question 3 again. In the right margin, enter the number 1 beside the task you consider most important to the successful performance of your work, the number 2 beside the second most important, etc., until you have so numbered each task."

3. The following question was used: "Please go back to the above question. In the left margin, enter the number 1 beside the task which occupies the greatest amount of your time, the number 2 beside the task that occupies the next greatest amount of time, etc., until you have so numbered each task."

4. For a presentation like this a comparison by individual tasks and not task areas would be too difficult to comprehend. But this particular approach does not rule out a comparison of task by task for the different types of schools.

5. The technique was chosen for heuristic purposes, there is some question as to the statistical legitimacy of the method applied.

6. To analyze the five top tasks is an arbitrary decision. Nevertheless, doing so is necessary for a computation of comparable weighted ranks since no specific limit for the number of tasks which could be listed by the respondents was given.

7. Apparently because of relative fewer "faculty meetings" reported by IPI-Control teachers.

8. For instance, in the task areas "guidance," 50% of the total tasks are among the five most important in IPI schools, 52% in IPI-control, 60% in Unitized schools, 52% in Unitized-control, and 50% in the Washington schools.

9. Only 22 tasks out of a total of 82 (or 26%) are among the five most important in the task area "evaluation" in Unitized schools while we observe a consistently higher percentage in all other types of schools.

10. This again indicates that a higher percentage of the total tasks are at the same time among the five most important tasks compared to the other types of schools.

THE DECISION-MAKING STRUCTURE OF SCHOOLS

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This paper concerns the decision-making process of schools studied by the Attributes Projects. It is limited in scope in that it deals only with teacher perceptions of authority structures in the school. While there are many approaches to the study of decision-making, we have decided to limit ourselves to the study of the authority structure, although in future reports we plan to report on the decision-making process in much greater detail and along other dimensions. At present, we have limited our analysis to only 18 of the 50-odd schools included in our study. In the future, we plan to complete the analysis of the entire sample. At that time we will deal with perceptions of the authority structure held by teachers, principals, and other personnel.

In order to determine teacher perceptions of the authority structures in schools, we were concerned with these questions: (1) Which positions in the schools had the primary responsibility for making certain decisions, and what other positions were involved in each decision; and (2) what is the nature of the relationship of the people involved in a particular decision. To identify teacher perceptions of these matters, we asked two series of questions. First, we asked the teachers to indicate in five different decision-making areas the degree to which they or others were involved in making a decision. The five decision-making areas that we chose were all classroom related activities. They included choice of teaching methods, scope and sequence of subject matter content, choice of instructional materials other than textbooks, pupil promotion, and scheduling daily classroom activities. We then asked the teachers to indicate who had the responsibility for making decisions in each of these areas. In each case, the teacher would specify that the decision was made in one of the following ways: (1) The teacher has complete autonomy in making decisions; (2) several people have the job of making recommendations to the teacher (we call this consultive authority); (3) the teacher has the right to make some part of the decision within limits (we call this limited

autonomy); (4) the teacher, with several others, makes certain decisions (we call this participative authority); and (5) someone other than the teacher has the authority to make the decisions. Each teacher selected the most appropriate rating for each decision-making area. In addition, each teacher named the other people involved in making decisions where appropriate.

As with the other papers presented thus far in this symposium, the schools in our study sample consist of Multiunit Schools and their controls, Individually Prescribed Instruction Schools (IPI) and their controls, and six schools from one school district in the state of Washington. Before discussing the differences between the various types of schools--e.g., Multiunit as compared with IPI Schools--and the regional differences we found, we would like to discuss variability within types of schools. In order to do this, we will break the schools down into three basic types: (1) control schools, including all the control schools in Wisconsin and New Jersey-Pennsylvania as well as the six schools in the Washington school district; (2) the Multiunit School, consisting of three schools in the state of Wisconsin; and (3) the Individually Prescribed Instruction Schools, including three schools in New Jersey and Pennsylvania. First we will discuss the control schools.

The control schools present a very consistent pattern. The principal is seen as the primary authority figure in each school, but his relations with the teachers are primarily consultive rather than prescriptive. This means that in most control schools the principal is listed quite frequently as making suggestions or consulting with teachers about the five decision-making areas included in our questionnaire. It should be made clear, however, that the role of the principal is consulting; that is, the teachers were the primary decision-makers in the classroom. This supports the notion of the school as a number of individual classrooms, with the activity of those classrooms being directed primarily by the teacher.

It should also be noted that in two of the districts included in our study, central office personnel emerged as consultive authority figures. This does not seem to be a regional effect in that one school district in Wisconsin and one school district in New Jersey-Pennsylvania indicated that the central office personnel (primarily the supervisor of elementary education) emerged as consultive authority figures among the teachers. In addition, a reading consultant in one of the Wisconsin districts was named quite frequently by teachers as a consultive leader. The overall pattern, however, is not disturbed by the central office personnel, for in every case the principal was by far the one named most frequently as a consultant.

In summary, the control schools, including all control schools in Wisconsin, New Jersey-Pennsylvania, and the six schools in Washington, reported quite consistent patterns in authority structures with regard to the decision-making areas we studied. The teachers saw themselves as the real decision-makers, but reported that the principal aided in making decisions in a consultive sense. As we shall see next, the Multiunit Schools in Wisconsin do not show this pattern.

The Multiunit Schools do show <u>one</u> type of consistent pattern. Most decisions are made in committees, rather than by individual teachers. With regard to authority, this is the one distinguishing characteristic of the Multiunit School. Within this framework, however, the Multiunit system allows for quite distinctive types of schools. In the three Multiunit Schools that we studied, we found three different types of authority relations. In the following paragraphs, we will discuss each of these three types in turn.

One school is what we would consider to be prototypic, that is, it most closely resembles the prescriptive Multiunit School developed by the Wisconsin Research and Development Center. In this school, we found two major levels in the authority structure. The school relies a great deal on the Instruc-

tional Improvement Committee (the principal and the unit leaders) as a major decision-making body. In addition, the units themselves act as coordinative committees. The principal plays a dominant part in the decision-making process, but he shares a great deal of his authority with the unit leaders. In addition, the unit leaders do not act as "principals" in their units, but rather as "leaders," and most of the decisions are made in a cooperative manner by the unit leaders and the teachers. Within each unit, the teachers and the unit leader concern themselves primarily with day-to-day planning decisions in unit meetings. The Instructional Improvement Committee (principal and unit leaders) concerns itself primarily with the more long range goals of the school. This situation stands in contrast to those in the other two Multiunit Schools.

We could not find evidence in the other two Multiunit Schools that the teachers in them considered the Instructional Improvement Committee a major decision-making unit. In both of the schools, the units seem to stand alone as the major coordinative groups in the school. This is not to say, however, that there were not differences between the two schools. In one school, there was a great deal of consistency among the units. That is, it appears that the same type of decision-making process occurred in each of the three units. It is likely that there was some sort of informal system working in the schools that produced this consistency. We have not completed our analysis of the power structure of the schools, and, at this time, do not have the data to support this suspicion.

The last Multiunit School is quite similar to the second in structure. In other words, the principal and the Instructional Improvement Committee do not seem to be a major decision-making body within the school. There is one important difference, however, between these two Multiunit Schools. Each unit in the third Multiunit School appears to be a small school in and of it-

self. The decision-making processes differ in each of the units. For instance, one of the units may have a participative type of decision-making structure, while in another unit decisions may be made by the unit leader acting alone. The principal of this third school does not actively involve himself in the operation of the organization to the extent that the principal in the prototypic school does. This briefly describes the internal variability found among the Multiunit Schools.

In addition to internal variability, these three Multiunit Schools also differ quite considerably in their use of central office personnel as part of the decision-making process in the instructional systems of the school. The prototypic school makes great use of central office consultants, but primarily in a consultive role. The school in which each unit acts as a school within itself also makes great use of the central office staff, but here the relationship between consultants and teachers is largely prescriptive. Finally, the school where there is dominance by the unit committees shows little use of the central office consultants at all. This variability among the Multiunit Schools, both in terms of internal organization and in terms of using central office consultants, contrasts considerably with the control schools that we have already discussed and with the IPI schools, which we will discuss next.

While there may be some differences among the Individually Prescribed Instruction Schools, the decision-making structures are similar. We think this has to do with the nature of the curriculum in the IPI Schools. All of our questions dealt primarily with classroom related decisions, and because the curricula developed by the LRDC affects many of these decisions (and indeed makes many of these decisions for the teachers) it follows that there should be greater consistency among the IPI Schools. We can only note at this time that in the Individually Prescribed Instruction Schools that we studied

there was no clear, consistent pattern of authority relations that we could discern emerging in any of the schools.

To sum up, there is little variability among control schools. The principal plays a primarily consultive role to the teachers, who are the major decision-makers in the school in terms of classroom related activities. While all Multiunit Schools we studied show a trend toward group decision-making, there is a great deal of variability in authority structures from one school to another. Essentially, in the three schools we studied there were three different types of authority structures. Finally, there is little variability among the IPI Schools, but we think that this is because of the very nature of the Individually Prescribed Instruction system. At any rate, there was no consistent pattern of authority structures in any of the three schools.

The next question we would like to consider is how experimental schools differ from their control schools. Remember that we indicated that control schools had principals as the predominant authority figure in a consultive relationship. Remember also that this was consistent across all control schools. Unitized schools show a significant movement from consultive types of authority relations to a more participative type of relationship. What we mean here is that teachers participate in making decisions in the units rather than making individual decisions with the advice of the principal. The participative type of authority relations refers, we think, primarily to a coordinative effort on the part of the teachers dealing with the same age level of children in an attempt to develop a more effective division of labor among these teachers. We would like to point out that the teachers do not gain power or authority from the central office staff or other people higher in the school organization. Instead, they seem to be pooling their decision-making ability at the classroom level in order to coordinate the activities of students and teachers. In future reports, we will present additional evi-

dence to advance this argument.

The IPI Schools, on the other hand, also show a trend away from the consultive type of authority relations found in their control schools. The movement is toward a more prescriptive type of authority relationship. However, it must be noted again that these prescriptions come not from the central office or the school district, but from the coordinators of the Individually Prescribed Instruction program. It is important to note that this prescriptive type of relationship between the teachers and the IPI coordinators is not a totally subordinate-superordinate relationship. That is, the teachers make decisions, but they are limited in which decisions they can make concerning instruction in the classroom. In other words, the IPI teachers have limited autonomy.

We can briefly contrast the three types of schools that we have discussed. In the control schools, the teachers have more autonomy, but have access to consultants to help them with certain problems. In the Multiunit Schools, the teachers exercise less individual autonomy, but participate in making decisions at the unit level. In the Individually Prescribed Instruction Schools, the teachers relinquish some of their autonomy in order to spend more time with individual students.

In this paper we have limited ourselves to a description of the authority structures in some of the schools studied by the Attributes Projects. We have not attempted to formulate any theoretical approach to this question as yet. In the near future, we intend to complete the analysis of the entire sample of 54 schools. At that time, we shall attempt to make more complete reports on the authority structures of schools.

THE SCHOOL OVER TIME: OUR FINDINGS COMPARED WITH THOSE OF WALLER*

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In beginning our descriptive assessment of the school organization and its innovation and change, it occurred to us that some long-range comparisons would be useful, however impressionistic they might be. What is change, after all, but those events associated with the passage of time? It further occurred to us that for this inductive phase of research, the search for information leading to hypotheses, the classics in the field might provide us with a point of reference.

One such classic is Willard Waller's The Sociology of Teaching.[1] This was clearly a seminal study in 1932, for it was then as comprehensive an interpreted ethnography of the school and its place in the community as was available. In addition, as is the case with all true classics, it is as relevant today in many respects as it was thirty-seven years ago. The study is replete with witty and incisive observations on the school and its occupants. It is with regret that we pass over these to focus a necessarily short discussion of Waller as the study relates to our specific purposes. Doubtless, however, we are all familiar with Waller's ". . . despotism in a state of perilous equilibrium," the school. (Page 10)

Perhaps Waller's central theme is a dilemma that has plagued students of organization for generations. How is it possible to determine the balance between a necessary and a malignant degree of organization? The systems theorists tell us that organization is necessary for thought to be possible. The absence of organization, its antithesis, is randomness, and no idea can be developed, no program implemented, in any rational manner within a random "framework." Indeed, the field of statistics addresses itself to the development of methods of rejecting randomness to "prove" that a relationship between variables exists. But, to "get something done," along what dimensions, and to

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[1]Willard Waller, The Sociology of Teaching (New York: Wiley, Science Editions, 1965 [copyright 1932]). Unless otherwise noted, all references are to Waller.

what degree must it be organized for optimal outcome?

Waller summarized his findings with a most explicit statement of this organizational dilemma:

> . . . an idea must be organized before it can be made into fact, and an idea wholly unorganized rarely lives long. Without mechanism it dies, but mechanism perverts it. (Page 441)

At the heart of the theory of organization that is yet to be written will surely be an operationalizable solution to the problem "how much organization?" "Too much organization" in Waller's analysis, however, is clearly seen as that which upsets the natural equilibrium of the social organism. Pathology appears in the school when excessive "institutionalization," to use Waller's term, upsets its organic equilibrium. Indeed, Waller described this equilibrium as "perilous" precisely because it could be, and frequently is, disturbed in several important ways.

Waller believed that: "The school must always function as an organization of personalities bound together in a dynamic relation. . . . (Page 442) . . . a social order resulting from the spontaneous, inevitable, and wholehearted interaction of personalities." (Page 446) We will not discuss at length this image of society. Waller expressed himself in the sociological idiom of his time, and it was natural for him to view society as an organism and to see intra- and inter-primary group harmony as an index of social health, and its obverse as an index of social pathology. Today we are more comfortable with an organizational idiom. We feel that it presumes less in allowing us to model social groups and to attempt to describe their operation in the abstract without the assumption that we know their anatomy and physiology completely, and hence can determine their pathology. Whatever the idiom, however, it is remarkable how little change the school organization appears to have undergone since Waller wrote. It is this phenomenon that is of interest here.

Waller developed his analysis of school pathology around several sets of contradictory group identities. One of these is the conflict between the cul-

ture of students and the culture of teachers. Another is the conflict between the requirements of teaching itself and the requirements of the school organization. Still another conflict of group interests manifests itself as the solidarity of the teacher group at the expense of the school organization. As Waller expressed it, "The morality of his [the teacher's] own primary group takes precedence over that of the secondary group which his group is supposed to serve." (Page 444)

We will attempt in what follows to assess what changes we can observe between Waller's sample and our own with respect to these three conflicts of interest. We believe that the comparison is warranted, for our exploratory questionnaire and interview methods, despite our organizational idiom, parallel Waller's case study method.

Conflict of interests between students and teachers was not a major focus of our study, but we do have some data bearing upon this area. We do perhaps find that modern, innovative teachers are more humanistic with respect to pupil control ideology than more traditionally oriented teachers, although this finding is not conclusive. A more interesting finding from our interview data, concerning discipline in the school, at least indicates that the study of pupil-teacher relationships bears investigating from the point of view of organizational study, even if we cannot claim that the current status of conflict in this sphere is greatly illuminated by our findings. Teachers in our IPI sample schools, where children have considerably more individual freedom than with conventional instruction, were about evenly divided on the question of discipline. About half felt that discipline was more of a problem, the other half felt it was less of a problem. Clearly, revision and extension of our analysis should include a study of the nature of the child's relationship to the school as a client; a part of the school as organization. In sum, if we are to test adequately the effect of modern methods upon teacher-pupil interaction, we must be more systematic and comprehensive.

Our preliminary analysis indicates that the inherent conflict between the requirements of teaching itself and the requirements of the school organization persists much as Waller described it. He was particularly concerned with the erosion, by the demands of the school bureaucracy, of the quality of teacher-student relationship that he deemed necessary for the development of motivation in the learning process.

In interview, teachers in our sample innovative schools frequently remarked that closer individual contact with the students was a major advantage of their innovation. This was especially true in the IPI schools. But, this consensus was not borne out when we asked teachers to select, from among twelve teaching activities, the three most important, and then select from among eleven hindering factors, the factor that most interfered with each chosen teaching activity. "Lack of time" was the hindering factor over all twelve teaching activities 29.0 per cent of the time, and the teaching activity "giving individual attention to students" was most hindered (20.1 per cent of the time) across all hindering factors. When comparing our subsamples, experimental and control schools and special (innovation-related) and regular teachers within experimental schools, this pattern remained essentially the same. Other hindering factors that accounted for the largest portion of difficulty in performing the most important teaching activities included "conflict with other duties" (15.5 per cent), and "lack of resources" (11.6 per cent). In fact, only "difficulty or complexity of the duty itself" (17.7 per cent), "reactions of students" (10.2 per cent), "reactions of parents" (4.9 per cent) and "other" (2.5 per cent), for a total of 35.5 per cent, are not exclusively organization-related hindrances to effective teacher performance, in the teachers' responses.

Finally, there is some evidence that the solidarity of the teacher group as an expense to the requirements of the school organization can be modified by certain kinds of innovative practices. An innovation such as the multi-

unit school that is specifically aimed at restructuring the school's organizational chart must do so to some extent. Even in this case, however, the specific outcome varies, at least with regard to authority structure, and hence the actual mechanism of this change is still a matter for speculation.

The higher incidence of cosmopolitanism in experimental schools in our sample is of interest here, since it might be expected that conflict between teachers and their schools would be greater where cosmopolitan orientation was greater. The specific innovative practice might still account for differences in cosmopolitan versus local outlook, however; the incidence of cosmopolitanism was higher in our IPI experimental schools than in our unitized experimental schools where organizational change was a part of the innovative practice.

Once again we must caution that our research is yet in an inductive phase; we seek to formulate viable models for the analysis of organization and organizational change in the schools, not to claim having formulated any. Our comparative inquiry has led, however, to a direct confrontation with the thesis of increasing bureaucratization in the schools.

The observation that the school organization is becoming increasingly bureaucratized is hardly new, and no less obvious than when it was new. Any historical statement on the development of American schools documents the increasing uniformity of curriculum, the routinization and coordination of tasks, and the emergence of specialized roles for principals, superintendents, and other school personnel. But the test of this hypothesis is yet to be made, as Bidwell recently pointed out: "There is no existing study of the prevalence or incidence either of bureaucratic structures or processes in school systems or of their consequences for school-system operations."[2] We may also

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[2]Charles E. Bidwell, "The School as a Formal Organization," in James G. March (ed.), Handbook of Organizations (Chicago: Rand McNally, 1965), p. 992.

note in passing that some evidence for a "debureaucratizing" outcome to teacher-student interaction has been reported.

While the organizational dilemma is yet to be resolved, and the direction of the school organization over time with respect to degree of organization increase or decrease is still uncertain, our comparison with Waller's study indicates that school personnel are increasingly sensitive to their organizational lives.

A great deal of Waller's analysis was devoted to the relationship between the teacher and the community, to cite one example. His respondents wrote lengthy accounts of their image in the community, their boarding houses, the importance of their respectability in the eyes of influential community residents, and so on. Today, in interview, our teachers describe their neighborhoods in terms of established, abstract schemes of social stratification; in this regard they speak more like social scientists than teachers in the traditional sense. They report individual incidents concerning individual children, and they note the degree of influence community organizations have upon the school, but their real anxieties appear to have shifted from their image in the community to their organizational anomie.

Perhaps this much is clear from our explorations. First, there is a good chance that the school has changed little in organizational structure since Waller's time, and changes that we appear to observe reflect shifts in focus and in models applied rather than actual changes in social structure. Otherwise put, teachers and researchers, like everyone else, react to the society in the idiom of their time, and reaction to the "organization" as a synonym for oppression is a feature of our current world. Secondly, and most important for future research, we must distinguish clearly between the idiom of the times, and viable, testable models of social structures. To this end, finally, we are very much in need of constructs under which to subsume that part of its individual members that organizations claim. The more immediate

division of behavior, rather than division of labor, and the more readily operationalizable organizational allegiance rather than organizational role, are possible constructs that we must seek to further our understanding of organizational processes, in the school as elsewhere.